Complete Summary

GUIDELINE TITLE

Surgical treatment of diverticulitis.

BIBLIOGRAPHIC SOURCE(S)

Society for Surgery of the Alimentary Tract (SSAT). Surgical treatment of diverticulitis. Manchester (MA): Society for Surgery of the Alimentary Tract (SSAT); 2003. 3 p.

GUIDELINE STATUS

This is the current release of the guideline.

This guideline updates the previously issued version: Society for Surgery of the Alimentary Tract. Surgical treatment of diverticulitis. Manchester (MA): Society for Surgery of the Alimentary Tract; 2000. 4 p.

COMPLETE SUMMARY CONTENT

SCOPE

DISEASE/CONDITION(S)

Diverticulitis

GUIDELINE CATEGORY

Diagnosis
Evaluation
Management

Risk Assessment
Treatment

CLINICAL SPECIALTY

Family Practice
Gastroenterology
Internal Medicine
Surgery

INTENDED USERS

Physicians

GUIDELINE OBJECTIVE(S)

To guide primary care physicians to the appropriate utilization of surgical procedures on the alimentary tract or related organs

TARGET POPULATION

Adult patients with diverticulitis

INTERVENTIONS AND PRACTICES CONSIDERED

Diagnosis/Evaluation

1. Assessment of symptoms (e.g., abdominal pain, tenderness, constipation, fever)
2. Abdominal x-ray
3. Barium enema
4. Computed tomography scanning
5. Endoscopy following resolution of attack (Note: Endoscopy is contraindicated in acute diverticulitis.)
6. Urinalysis, urine culture, and cystoscopy in cases of suspected colovesical fistula

Treatment (Medical and Surgical)

1. Hospitalization for intravenous (IV) hydration, broad-spectrum antibiotics, bowel rest with/without nasogastric tube decompression
2. Preoperative antibiotic bowel prep
3. Elective or emergency surgery for diverticulitis and complications, including sigmoid colectomy with primary anastomosis, left hemicolectomy, surgical exploration, and drainage of abscess
4. Conversion from laparoscopic surgical technique to open surgical procedure with presence of significant abdominal adhesions, bowel inflammation, bleeding, or other unanticipated obstacle
5. Colostomy; colostomy closure
6. High-fiber diet at hospital discharge

MAJOR OUTCOMES CONSIDERED

- Length of hospital stay
- Postoperative bowel function
- Recurrent diverticulitis
- Perioperative morbidity and mortality rates

METHODOLOGY

METHODS USED TO COLLECT/SELECT EVIDENCE

Searches of Electronic Databases

DESCRIPTION OF METHODS USED TO COLLECT/SELECT THE EVIDENCE

Not stated

NUMBER OF SOURCE DOCUMENTS

Not stated

METHODS USED TO ASSESS THE QUALITY AND STRENGTH OF THE EVIDENCE

Not stated

RATING SCHEME FOR THE STRENGTH OF THE EVIDENCE

Not applicable

METHODS USED TO ANALYZE THE EVIDENCE

Review

DESCRIPTION OF THE METHODS USED TO ANALYZE THE EVIDENCE

Not applicable

METHODS USED TO FORMULATE THE RECOMMENDATIONS

Expert Consensus

DESCRIPTION OF METHODS USED TO FORMULATE THE RECOMMENDATIONS

The Society for Surgery of the Alimentary Tract (SSAT) guidelines are based on statements and recommendations that were overwhelmingly supported by clinical evidence. Each represents a consensus of opinion and is considered a reasonable plan for a specific clinical condition.

(See companion document Gadacz TR, Traverso LW, Fried GM, Stabile B, Levine BA. Practice guidelines for patients with gastrointestinal surgical diseases. J Gastrointest Surg 1998;2:483-484.)

RATING SCHEME FOR THE STRENGTH OF THE RECOMMENDATIONS

Not applicable

COST ANALYSIS

A formal cost analysis was not performed and published cost analyses were not reviewed.

METHOD OF GUIDELINE VALIDATION

Internal Peer Review

DESCRIPTION OF METHOD OF GUIDELINE VALIDATION

The guidelines were reviewed by several committee members and then by the entire committee on several occasions. Each guideline was then sent back to the original author for final comment and reviewed again by the committee. Each guideline was approved by the Board of Trustees of the Society for Surgery of the Alimentary Tract and final comments were reviewed by the committee.

(See companion document Gadacz TR, Traverso LW, Fried GM, Stabile B, Levine BA. Practice guidelines for patients with gastrointestinal surgical diseases. J Gastrointest Surg 1998;2:483-484.)

RECOMMENDATIONS

MAJOR RECOMMENDATIONS

Symptoms and Diagnosis

Acute diverticulitis typically presents with left lower quadrant abdominal pain and local tenderness accompanied by fever. In most cases, an inflammatory process is confined to the colon and its mesentery and adjacent structures or peritoneal surfaces. In the patient with diverticular perforation, a pericolic or pelvic abscess may be present with associated high fever. Patients with perforation and diffuse peritonitis usually present with severe generalized abdominal pain and associated paralytic ileus. Diffuse peritonitis may lead to septic shock with prostration and cardiovascular collapse. High-grade colonic obstruction manifests as colicky abdominal pain, bloating, and constipation or obstipation.

Abdominal findings reflect the severity and localization of the septic process. The inflamed colon or pericolic abscess causes marked localized tenderness with or without a palpable mass. In cases of diffuse peritonitis, generalized tenderness, involuntary guarding, and decreased or absent bowel sounds are noted. The presence of pneumaturia or fecaluria signifies the presence of a colovesical fistula.

Severe abdominal distention suggests bowel obstruction. The diagnosis of acute diverticulitis is based on clinical findings and leukocytosis. Abdominal x-rays may show a generalized ileus and occasional pneumoperitoneum, the latter in cases of diffuse peritonitis. Marked dilatation of the more proximal colon indicates sigmoid obstruction. For patients with localized disease, computed tomography (CT) scanning has replaced barium enema as the imaging procedure of choice. However, CT scanning is usually reserved for patients with suspected abscesses or perforations, those who fail to respond to medical therapy, or in whom the diagnosis is not clear. Endoscopic evaluation is contraindicated in acute diverticulitis, as insufflation of air may cause free perforation and peritonitis. Following resolution of an acute attack, endoscopy and/or barium enema is indicated 6 to 8 weeks following hospital discharge to document the extent of colonic diverticula and to exclude colorectal carcinoma. In cases of suspected colovesical fistula, the diagnosis is usually made by urinalysis, urine culture, and cystoscopy.

Treatment

Patients with severe acute diverticulitis require hospitalization for intravenous hydration, broad-spectrum antibiotics, and bowel rest with or without nasogastric tube decompression. The initiation of medical therapy usually results in rapid clinical improvement with resolution of pain, fever, and ileus within 48 to 72 hours. Broad-spectrum antibiotics are continued for 7 to 10 days, and oral feedings are gradually reintroduced as tolerated. Following resolution of signs and symptoms, patients should consume a high-fiber diet to decrease the likelihood of repeated attacks.

Operation for diverticulitis and its complications may be either an elective or emergency procedure. Indications for elective operation include:

1. Two or more acute attacks of diverticulitis successfully treated medically
2. A single attack requiring hospitalization in a patient less than 40 years of age
3. One attack with evidence of contained perforation, colonic obstruction, or inflammatory involvement of the urinary tract
4. Inability to rule out a colonic carcinoma

Because the overwhelming majority of patients with acute diverticulitis have sigmoid colon involvement, resections of other portions of the colon are infrequent. Most patients deemed candidates for elective operation undergo a mechanical and antibiotic bowel preparation, and are treated by sigmoid colectomy with primary anastomosis. A left hemicolectomy may be required for diverticulitis of the descending colon. Isolated cecal or ascending colon diverticulitis, a rare condition usually encountered during emergency operation for presumed acute appendicitis, may require resection.

Patients who present with diffuse peritonitis or pneumoperitoneum require prompt fluid resuscitation, intravenous antibiotics, and emergency surgical exploration. Resection of the perforated colonic segment (almost always the sigmoid) with descending end colostomy and closure of the rectal stump is usually required. The former three-stage approach involved proximal colostomy and drainage, resection with colostomy, and finally colostomy closure. This method is now rarely used, as it does not consistently control the septic process. Patients with non-perforated

acute diverticulitis who either deteriorate or fail to improve after 48 to 72 hours of aggressive medical therapy should undergo prompt CT scanning of the abdomen. If a macroscopic abscess is not identified, laparotomy and colon resection are performed. The identification of a large (5 cm or greater) abscess should be treated by surgical exploration with drainage of the abscess and colonic resection, or by CT-guided percutaneous catheter drainage. If the latter approach is chosen, a subsequent elective colon resection with primary anastomosis is performed after resolution of the abscess.

Patients whose acute diverticulitis is complicated by colovesical or other fistula rarely require emergent operation. Such patients are best treated medically with subsequent elective fistula takedown, colon resection, and primary anastomosis. When colonic obstruction attends diverticulitis, it is usually incomplete and allows a gentle mechanical and antibiotic bowel preparation, as well as non-emergent colon resection with primary anastomosis.

Nearly all types of elective surgery for diverticular disease are now successfully performed using laparoscopic techniques. If significant adhesions, inflammation, bleeding, or other adversity is encountered during laparoscopic surgery, conversion to an open procedure may be indicated. Such conversion is not a complication and is appropriate to ensure safe completion of the operation.

Qualifications for Performing Surgery for Diverticulitis

The qualifications of a surgeon to perform any operative procedure should be based on training (education), experience, and outcomes. At a minimum, surgeons who are certified or eligible for certification by the American Board of Surgery, the Royal College of Physicians and Surgeons of Canada, or their equivalent should perform emergency as well as elective colectomy. It is highly desirable that the surgeons performing laparoscopic colonic surgery have undergone specific advanced training in this area.

CLINICAL ALGORITHM(S)

None provided

EVIDENCE SUPPORTING THE RECOMMENDATIONS

TYPE OF EVIDENCE SUPPORTING THE RECOMMENDATIONS

The type of supporting evidence is not specifically stated for each recommendation.

BENEFITS/HARMS OF IMPLEMENTING THE GUIDELINE RECOMMENDATIONS

POTENTIAL BENEFITS

Medical Therapy

The initiation of medical therapy in patients with acute diverticulitis usually results in rapid clinical improvement with resolution of pain, fever, and ileus within 48 to 72 hours. A high-fiber diet following resolution of signs and symptoms decreases the likelihood of repeated attacks.

Surgery

Following successful resection and colonic anastomosis, the rate of recurrent diverticulitis is well below 5% but may be higher if the resection does not extend to the rectosigmoid junction.

POTENTIAL HARMS

Mortality rates after colon resection for diverticulitis have been observed to be 0 to 2% for elective resection with primary anastomosis and 5 to 20% for emergency operation.

Technical complications associated with colonic surgery include bleeding, anastomotic leak with associated infection, and occasional inadvertent injury to adjacent organs, particularly the ureter. These risks occur in less than 5% of patients undergoing elective colectomy.

Subgroups Most Likely to Be Harmed

Elderly patients with comorbid conditions such as cardiac and pulmonary disease increase the risk of surgery, especially that of an emergent nature.

CONTRAINDICATIONS

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Endoscopic evaluation is contraindicated in acute diverticulitis, as insufflation of air may cause free perforation and peritonitis.

QUALIFYING STATEMENTS

QUALIFYING STATEMENTS

These guidelines have been written by the Patient Care Committee of the Society for Surgery of the Alimentary Tract (SSAT). Their goal is to guide primary care physicians to the appropriate utilization of surgical procedures on the alimentary tract or related organs and they are based on critical review of the literature and expert opinion. Both of the latter sources of information result in a consensus that is recorded in the form of these Guidelines. The consensus addresses the range of acceptable clinical practice and should not be construed as a standard of care. These Guidelines require periodic revision to ensure that clinicians utilize procedures appropriately, but the reader must realize that clinical judgment may justify a course of action outside of the recommendations contained herein.

IMPLEMENTATION OF THE GUIDELINE

DESCRIPTION OF IMPLEMENTATION STRATEGY

An implementation strategy was not provided.

INSTITUTE OF MEDICINE (IOM) NATIONAL HEALTHCARE QUALITY REPORT CATEGORIES

IOM CARE NEED

Getting Better
Living with Illness

IOM DOMAIN

Effectiveness

IDENTIFYING INFORMATION AND AVAILABILITY

BIBLIOGRAPHIC SOURCE(S)

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ADAPTATION

Not applicable: The guideline was not adapted from another source.

DATE RELEASED

1996 (revised 2003 May)

GUIDELINE DEVELOPER(S)

Society for Surgery of the Alimentary Tract, Inc - Medical Specialty Society

SOURCE(S) OF FUNDING

Society of Surgery of the Alimentary Tract, Inc.

GUIDELINE COMMITTEE

Patient Care Committee

COMPOSITION OF GROUP THAT AUTHORED THE GUIDELINE

Not stated

FINANCIAL DISCLOSURES/CONFLICTS OF INTEREST

Not stated

GUIDELINE STATUS

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This guideline updates the previously issued version: Society for Surgery of the Alimentary Tract. Surgical treatment of diverticulitis. Manchester (MA): Society for Surgery of the Alimentary Tract; 2000. 4 p.

GUIDELINE AVAILABILITY

Electronic copies: Available from the Society for Surgery of the Alimentary Tract, Inc. Web site.

Print copies: Available from the Society for Surgery of the Alimentary Tract, Inc., 900 Cummings Center, Suite 221-U, Beverly, MA 01915; Telephone: (978) 927-8330; Fax: (978) 524-0461.

AVAILABILITY OF COMPANION DOCUMENTS

The following is available:

- Gadacz TR, Traverso LW, Fried GM, Stabile B, Levine BA. Practice guidelines for patients with gastrointestinal surgical diseases. J Gastrointest Surg 1998;2:483-484.

Electronic copies: Not available at this time.

Print copies: Available from the Society for Surgery of the Alimentary Tract, Inc., 900 Cummings Center, Suite 221-0, Beverly, MA 01915; Telephone: (978) 927-8330; Fax: (978) 524-8890.

PATIENT RESOURCES

None available

NGC STATUS

This summary was completed by ECRI on March 28, 2000. The information was verified by the guideline developer as of May 30, 2000. This summary was updated by ECRI on September 9, 2004.

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